

PR4



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,806	09/14/2000	Tsuyoshi Hasegawa	P19378	1232
7055	7590	04/02/2004	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			CHANG, SUNRAY	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 04/02/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,806

Applicant(s)

HASEGAWA ET AL.

Examiner

Sunray Chang

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 23 are presented for examination.
Claims 1 – 23 are rejected.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the individual planes of second stereo model" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The term "reversing the individual planes of the stereo model" in claim 1 is not defined in the specification. The specification teaches the individual planes are individual polygons but it does not teach how to reverse the individual planes of the stereo model.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 2123

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. Specifically, independent claims include limitations drawn to reversing the individual planes of second stereo model. But the specification does not disclose the methodology for actually reversing the individual planes of second stereo model. No algorithms, techniques or flow charts are disclosed. While the specification on page 2 line 16 - 17, for example, makes references to, making a contour drawing model by reversing the individual planes of the second stereo model. Applicant's specification appears to be drawn entirely to procedures of rendering a stereo model in a virtual space. Applicants have not disclosed specifically how to reverse the individual planes of the second stereo model. Such that one skilled in the art could make and/or use the claimed invention without undue experimentation.

7. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. Specifically, independent claims include limitations drawn to reversing the individual planes of second stereo model. But the specification does not disclose the methodology for actually reversing the individual planes of second stereo model. No algorithms, techniques or flow charts are disclosed. While the specification on page 2 line 16 - 17, for example, makes references to, making a contour drawing model by reversing the individual planes of the second stereo model. Applicant's specification appears to be drawn entirely to procedures of rendering

Art Unit: 2123

a stereo model in a virtual space. Applicants have not disclosed specifically how to reverse the individual planes of the second stereo model. Accordingly, a skilled artisan would not know how to make and/or use the claimed invention from the written description contained in the specification. Dependent claims inherit this defect.

9. Claims 2 – 5, 11 – 14, 20 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

10. Specifically, independent claims include limitations drawn to having sides reversed at its planes corresponding to the individual planes of stereo model. But the specification does not disclose the methodology for actually having sides reversed at its planes corresponding to the individual planes of stereo model. No algorithms, techniques or flow charts are disclosed. While the specification on page 2 line 16 - 17, for example, makes references to, having sides reversed at its planes corresponding to the individual planes of the stereo model and having vertexes corresponding to the individual vertexes of the planes composing the stereo model and set in the normal directions of the individual vertexes. Applicants have not disclosed specifically how to have sides reversed at its planes corresponding to the individual planes of stereo model. Such that one skilled in the art could make and/or use the claimed invention without undue experimentation.

11. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

12. Specifically, independent claims include limitations drawn to having sides reversed at its planes corresponding to the individual planes of stereo model. But the specification does not

disclose the methodology for actually having sides reversed at its planes corresponding to the individual planes of stereo model. No algorithms, techniques or flow charts are disclosed. While the specification on page 2 line 16 - 17, for example, makes references to, having sides reversed at its planes corresponding to the individual planes of the stereo model and having vertexes corresponding to the individual vertexes of the planes composing the stereo model and set in the normal directions of the individual vertexes. Applicants have not disclosed specifically how to have sides reversed at its planes corresponding to the individual planes of stereo model. Accordingly, a skilled artisan would not know how to make and/or use the claimed invention from the written description contained in the specification. Dependent claims inherit this defect.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. The terms "having sides reversed" in claims 1 – 5, 11 – 14, 20 and 22 is vague and indefinite. Because the terms " having sides reversed " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The explanation in specification for " having sides reversed " recites having sides reversed at its planes corresponding to the individual planes of the stereo model and having vertexes corresponding to the individual vertexes of the planes composing the stereo model and set in the normal directions of the individual vertexes. There is no further explanation for "having sides reversed".

14. The following rejections are advanced against the claims as best interpreted.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2123

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1, 2, 4 – 6, 10, 11, 13 – 15, and 19 - 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Ritter et al. (U.S. Patent No. 6,363,169).

16. Regarding **independent claims 1, 2, 11, 20 and 22**, Ritter teaches a computer (computer, Col 7, Line 48); and a computer-readable recording medium (CD-ROM, Col 7, Line 58) stored with a program to be executed by computer (A program is stored on CD-ROM to be used by computer, Col 7, Line 57 - 58), wherein program activates computer to execute (for generating, Col 7, Line 58): an acquisition function to acquire a contour drawing model corresponding to stereo model (generating a three-dimensional model of an object, Col 7, Line 58 - 59) and having sides (shape, Col 10, Line 12) reversed (generated, Col 10, Line 10) at its planes (polygons, Col 10, Line 13) corresponding (represented by, Col 10, Line 14) to the individual planes of stereo model (stereoscopic configuration, Col 10, Line 11); an arrangement function to arrange contour drawing model (generating a polygon, Col 9, Line 25) at a position (reference point, Col 9, Line 22) containing stereo model (Fig. 9D, Sheet 8/30); and a drawing function to draw stereo model (generating a polygon, Col 9, Line 25) from a predetermined viewpoint position (reference point, Col 9, Line 22), drawing only the planes (Fig.9D , Sheet 8/30), as facing viewpoint position (shooting position, Col 9, Line 39), of contour drawing model (Fig. 9D, Sheet 8/30) in a predetermined color (silhouette, Col 9, Line 60).

17. Regarding **independent claims 6, 15, 21 and 23**, Ritter teaches a computer (computer, Col 7, Line 48); and a computer-readable recording medium (CD-ROM, Col 7, Line 58) stored with a program to be executed by computer (A program is stored on CD-ROM to be used by computer, Col 7, Line 57 - 58), wherein program activates computer to execute (for generating, Col 7, Line 58): an acquisition function to acquire a contour drawing model corresponding to stereo model (generating a three-dimensional model of an object, Col 7, Line 58 - 59) and having sides (shape, Col 10, Line 12) reversed (generated, Col 10, Line 10) at its planes

Art Unit: 2123

(polygons, Col 10, Line 13) corresponding (represented by, Col 10, Line 14) to the individual planes of stereo model (stereoscopic configuration, Col 10, Line 11); an arrangement function to arrange contour drawing model (generating a polygon, Col 9, Line 25) at a position (reference point, Col 9, Line 22) containing stereo model (Fig. 9D, Sheet 8/30); and a drawing function to draw stereo model (generating a polygon, Col 9, Line 25) from a predetermined viewpoint position (reference point, Col 9, Line 22), drawing only the planes (Fig. 9D, Sheet 8/30), as on the back of viewpoint position (Back view, Col 6, Line 46, Fig. 18C), of contour drawing model (Fig. 9D, Sheet 8/30) in a predetermined color (silhouette, Col 9, Line 60).

18. Regarding **dependent claims 4 and 13**, Ritter teaches acquiring a contour drawing model corresponding to stereo model (generating a three-dimensional model of an object, Col 7, Line 58 - 59), having sides (shape, Col 10, Line 12) reversed (generated by, Col 10, Line 10) at its planes (polygons, Col 10, Line 13) corresponding to (represented by, Col 10, Line 14) the individual planes of stereo model (stereoscopic configuration, Col 10, Line 11) and having vertexes (vertex, Col 3, Line 60) corresponding to the individual vertexes (vertex, Col 3, Line 60) of the planes (polygons, Col 10, Line 14) composing stereo model (stereoscopic configuration, Col 10, Line 11) and set in the normal directions of individual vertexes (shooting position, Col 10, Line 24).

19. Regarding **dependent claims 5 and 14**, Ritter teaches acquiring a contour drawing model corresponding to stereo model (generating a three-dimensional model of an object, Col 7, Line 58 - 59), mapped with a texture (mapping the texture, Col 6, Line 21) having a pattern (pattern, Col 1, Line 17) having sides (shape, Col 10, Line 12) reversed (generated by, Col 10, Line 10) at its planes (polygons, Col 10, Line 13) corresponding to (represented by, Col 10, Line 14) the individual planes of stereo model (stereoscopic configuration, Col 10, Line 11).

20. Regarding **dependent claims 10 and 19**, Ritter teaches drawing stereo model (generating a three-dimensional model, Col 7, Line 58) from the predetermined viewpoint position (reference point, Col 9, Line 22) and drawing the planes (image shooting Fig. 9A), as on the back of viewpoint position (a back view, Col 6, Line 46), of contour drawing model (reference object, Col 6, Line 47) by mapping only planes (mapping the texture, Col 6, Line 22)

Art Unit: 2123

with a texture having a pattern (texture (color and pattern), Col 1, Line 17) containing a change in brightness or transparency (silhouette, Col 9, Line 60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. **Claims 3, 7 – 9, 12 and 16 - 18 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Ritter et al. (U.S. Patent No. 6,363,169), and in view of Cok (U.S. Patent No. 4,910,611).

22. **Regarding claims 3, 12 and 16**, Ritter teaches acquiring a contour drawing model corresponding to stereo model (generating a three-dimensional model of an object, Col 7, Line 58 - 59), having sides (shape, Col 10, Line 12) reversed (generated by, Col 10, Line 10) at its planes (polygons, Col 10, Line 13) corresponding to (represented by, Col 10, Line 14) the individual planes of stereo model (stereoscopic configuration, Col 10, Line 11).

Ritter does not teach a model generated larger than stereo model.

Cok teaches a model (an image, Col 17, Line 55) generated (resize, Col 17, Line 55) larger than (resize enlarges, Col 17, Line 55) stereo model (source image, Col 17, Line 57).

It would have been obvious to a person of ordinary skill in the art to modify the teaching of Ritter to include "a model generated larger than stereo model" with the motivation to provide for conceiving a method of moving planes in their normal directions by determining their normals (page 4, Line 19 – 20).

23. Regarding claims 7 and 17, Ritter teaches acquiring contour drawing model (generating a three-dimensional model, Col 7, Line 58 - 59) and arranging contour drawing model (generating a polygon, Col 9, Line 25) at a position (reference point, Col 9, Line 22) containing stereo model (Fig. 9D, Sheet 8/30).

Ritter does not teach enlarging the size of contour drawing model.

Cok teaches a model enlarging the size (enlarge, Col 17, Line 55) of contour drawing model (an image, Col. 17, Line 55).

It would have been obvious to a person of ordinary skill in the art to modify the teaching of Ritter to include "enlarging the size of contour drawing model" with the motivation to provide for conceiving a method of moving planes in their normal directions by determining their normals (page 4, Line 19 – 20).

24. Regarding claim 8, Ritter teaches generating a contour drawing model (a three-dimensional model, Col 7, Line 58 - 59) by moving the individual vertexes (Fig. 27, Sheet 24 of 30) of the planes (reference sheet 1, Col 17, Line 59) composing acquired contour drawing model (generating a three-dimensional model, Col 7, Line 58 - 59), in the normal directions of individual vertexes (shooting position, Col 10, Line 24), at the position (reference point, Col 9, Line 22) containing stereo model (Fig. 9D, Sheet 8/30).

Ritter does not teach enlarging the size of contour drawing model, arranging enlarged contour drawing model.

Cok teaches a model enlarging the size (enlarge, Col 17, Line 55) of contour drawing model (an image, Col. 17, Line 55).

It would have been obvious to a person of ordinary skill in the art to modify the teaching of Ritter to include "enlarging the size of contour drawing model" with the motivation to provide for conceiving a method of moving planes in their normal directions by determining their normals (page 4, Line 19 – 20).

25. **Regarding claims 9 and 18**, Ritter teaches arranging contour drawing model (generating a polygon, Col 9, Line 25) at a position (reference point, Col 9, Line 22) containing stereo model (Fig. 9D, Sheet 8/30).

Ritter does not teach reducing the size of stereo model.

Cok teaches a model reducing the size (resize, reduces, Col 17, Line 55) of stereo model (an image, Col 17, Line 55).

It would have been obvious to a person of ordinary skill in the art to modify the teaching of Ritter to include "reducing the size of stereo model" with the motivation to provide for conceiving a method of moving planes in their normal directions by determining their normals (page 4, Line 19 – 20).

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hayama et al. (U.S. Patent No. 6,343,987) discloses changing the shape of the object, memory to recording information of 1st polygon, 2nd polygon, linking, computer graphic, virtual object, object and viewpoint in a virtual space, individual shape. Mifune et al. (U.S. Patent No. 6,603,479) discloses virtual viewpoint, realizing the far and near expression in a displayed picture effectively, displaying a full view of the results, a plane for displaying. Hasegawa (U.S. Patent No. 6,549,202) discloses light source, color calculating portion, plotting portion, three-dimensional model cell-animation-looking image, luminosity ranges, plotting color, constituted by a plurality of polygons, luminosity at the position of each pixel lies, divided shading. Nagashima (U.S. Patent No. 6,281,902) discloses stage of density data, density data is reflected, modeling data memory, distance data, selecting section, layer is reflected on the

Art Unit: 2123

modified shape, flattened in the back and forward direction, predetermined reference coordinates, displaying the density data. Migdal (U.S. Patent No. 6,549,288) discloses reflected point of light, reconstruction the 3D shape, illumination pattern, light source.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunray Chang whose telephone number is 703-305-8744. The examiner can normally be reached on M-F 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703-305-9704. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-6833.

Sunray Chang
Patent Examiner
Group Art Unit 2128
Technology Center 2100
U.S. Patent and Trademark Office

March 26, 2004



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER